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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/786,188

02/25/2004

Benjamin Sonnenreich

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KULICKE AND SOFFA INDUSTRIES, INC.
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EXAMINER

KERNS, KEVIN P

ART UNIT

PAPER NUMBER

1725

MAIL DATE

DELIVERY MODE

08/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/786,188	Applicant(s) SONNENREICH ET AL.	
	Examiner Kevin P. Kerns	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-23 and 27-40 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27 and 36-39 is/are allowed.
- 6) ☒ Claim(s) 17-20, 23, 28-35 and 40 is/are rejected.
- 7) ☒ Claim(s) 21, 22, 32, 35 and 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "222" (pages 3 and 4 of specification); and "226,224" (page 4, line 16). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "204" and "206" (Figure 2A); "202" (Figures 2A and 2B); and "302" (Figures 3A and 3B). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should

include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: on page 2 of the preliminary amendment dated February 25, 2004, the status of the parent application should be updated to show that it has issued as US 6,729,527. Appropriate correction is required.

Claim Objections

4. Claims 32, 35, and 38 are objected to because of the following informalities: in the last lines of these claims, replace misspelled "floropolymers" with "fluoropolymers". Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 17-20, 23, 28-35, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilding (US 4,049,506) in view of Evans (US 4,950,365).

Gilding discloses a capillary wire bonding tool for bonding a fine wire to a bonding location comprising the steps of providing a body portion of the capillary bonding tool, the body portion defining an orifice configured to receive a wire for bonding to a bonding location, the body portion extending to a tip portion (abstract; column 1, lines 9-16; column 2, lines 16-26 and 57-68; column 3, lines 1-6; column 6, lines 4-18; column 7, line 29 through column 8, line 49; Examples 1-3; and Figures 1-3). Gilding fails to teach a polymer coating, such as polyparaxylenes, on the exterior of the tip portion having a thickness between 0.1 to 2 microns and the coating step comprising forming a precursor monomer at a first temperature and pressure and forming a coating step from the precursor monomer at a second temperature and pressure.

However, Evans discloses the method of applying a coating of the polymer polyparaxylene to a hard surface to retain its hard, wear resistant surface, its decorative tone, and its resistance to corrosion (abstract; and column 4, lines 10-18).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to apply a coating of the polymer coating of polyparaxylene, as taught by Evans, to the capillary wire bonding tool of Gilding, in order for the tool to achieve a hard surface, a surface resistant layer, and corrosion resistant layer (Evans; abstract; and column 4, lines 10-28). In addition, the thickness of the polymer would have been obvious to an ordinary skill in the art, since that would depend on the usage of the tool. If the tool is to be used repeatedly, then it would be obvious to have a thicker layer, as well as to have a polymer coating on both exterior and interior surfaces, in order to reduce wear of the material to be protected by the polymer coating. Furthermore, it would have been obvious to form a precursor monomer with a first temperature and a first pressure and during coating the polymer, the temperature and pressure would be different, since this involves a different process.

Allowable Subject Matter

8. Claims 27 and 36-39 remain allowed.
9. Claims 21 and 22 remain objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. The examiner acknowledges the applicants' amendment provided with the request for continued examination received by the USPTO on July 12, 2007. The applicants' remarks overcome prior 35 USC 112, 1st paragraph rejections. However, upon review, new objections to the drawings, specification, and claims are raised in above sections 1-4. Allowable subject matter remains (see above sections 8 and 9). Claims 17-23 and 27-40 remain under consideration in the application.

11. Applicants' arguments filed July 12, 2007 have been fully considered but they are not persuasive.

With regard to the applicants' remarks/arguments on pages 6 and 7 of the amendment, the applicants are referred to the newly underlined portions of above section 7 (the 35 USC 103(a) rejections), which include reasoning for obviousness of applying a polymer coating on all surfaces, not just an exterior surface. The applicants continue to argue that there is allegedly no motivation to combine Gilding and Evans, and appear to be attacking the references individually in the paragraph bridging pages 6 and 7, as well as the 1st two full paragraphs on page 7 of the remarks. The examiner respectfully disagrees, as Evans discloses the method of coating a polyparaxylene to a hard surface to retain its hard, wear resistant surface, its decorative tone and its resistance to corrosion (see column 4, lines 10-28). Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to apply a coating of polyparaxylene, as taught by Evans, to the wire bonding capillary

tool of Gilding, in order for the tool to achieve a hard surface, a surface resistant layer, and corrosion resistant layer. In addition, the applicants maintain that Evans' coating cannot be used with Gilding's apparatus since the polymeric coating of Evans is not provided for the same reason. The examiner respectfully disagrees. Evans discloses ***"the conformal quality of the parylene coating is so efficient that the areas of increased permeability associated with the coating defects--which invariably exist in the hard coated layer--are "filled" with the polymeric coating. Even after extensive use of the article, the parylene unexpectedly prevents air and moisture from reaching the surface of the article. It is therefore possible to combine the desirable properties of the two coatings even after, by all appearances, the soft parylene coating has long been worn off the surface of the article."*** Therefore, Evans discloses the parylene (soft coating similar to applicants' invention) to protect the exterior of the capillary tool from wear and corrosion even after it is being worn off. In response to applicants' arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Divisional applications US 6,729,527 (parent) and US 7,077,304 (child) are also cited in PTO-892.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan Johnson can be reached on (571) 272-1177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns *Kevin Kerns 8/18/07*
Primary Examiner
Art Unit 1725

KPK
kpk

August 18, 2007